EMU SCHOOL 2013: "MINERALS AT THE NANOSCALE"

The EMU School "Minerals at the Nanoscale" was held in the Centro de Instrumentación Científica (CIC) of the University of Granada (Spain) from June 3 to 6, 2013. It was organized by Fernando Nieto and Fernando Gervilla and included both classical lectures and practical sessions. Lecturers explained the structures and microstructures of sulfides, oxides, carbonates, clay and serpentine minerals, metamorphic phyllosilicates, pyriboles, extraterrestrial minerals and biominerals studied under HR-TEM. The lectures were given by Fernando Nieto, Ken Livi, Carlos Rodríguez-Navarro, Encarnación Ruiz-Agudo, Falko Langenhorst, Vidal Barrón, Blanca Bauluz, Krassimir Bozhilov, Patrick Cordier, Cristiano Ferraris, Hugues LeRoux and Mihály Pósfai, who made the school a success because of their high level of academic teaching. The contents of the lectures are compiled in volume 14 of the EMU Notes on Mineralogy series, and participants used this book during the school. It is available now from the Mineralogical Society's online bookshop (www.minersoc.org) and through the online bookshops of the Geological Society (www.geolsoc.org.uk) and the Mineralogical Society of America (www.minsocam.org).

Four practical sessions covered (1) the preparation of samples, including extraction of a sample from a thin section, ion milling, powder sampled on a grid, embedding with resin and cutting with a microtome; (2) the acquisition of diffraction data (SAED) and conventional TEM images, and EDX chemical analysis using a CM-20 apparatus; (3) the orientation of a sample, the acquisition of atomic-resolution images, HAADF, EDX compositional maps and analysis using the new Titan apparatus, recently purchased by the CIC; and (4) the acquisition of EELS spectra and the interpretation of data. These practical sessions were conducted by Isabel Abad, Javier Cifuentes, María del Mar Abad-Ortega and Antonio Sánchez-Navas.

The school was made possible by the participation of postgraduate students and senior researchers from 8 different European countries. The maximum number of participants (40) was reached well before the registration deadline. This limit allowed a maximum of 10 participants in each of the four practical sessions. The school benefited from the financial support of the University of Granada (especially the Department of Mineralogy and Petrology and the Faculty of Sciences), the Spanish Mineralogical Society (SEM), FEI, the Andalusian Institute of Earth Sciences (IACT) and the German Mineralogical Society (DMG). In addition, 15 students attended the school with help from several scientific societies: the Spanish Mineralogical Society, the Commission on Inorganic and Mineral Structures (CIMS) of the International Union of Crystallography (IUCr), the French Society of Mineralogy and Crystallography (SFMC), the Spanish Clay Minerals Society (SEA), the Italian Association for the Study of Clay Minerals (AISA), the Italian Society of Mineralogy and Petrology (SIMP), and the PhD program in Earth sciences at the University of Granada.

The EMU School 2013 ended in the gardens of the Carmen de La Victoria (http://carmendelavictoria.ugr.es/) in front of the Alhambra castle, where participants and teachers enjoyed a cocktail and experienced the magic of a spring evening in Granada.

Fernando Nieto and **Fernando Gervilla**
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SFMC STUDENT SPONSORSHIP

Romain Lafay (PhD student at ISTerre, University of Grenoble) and Guillaume Bellino (PhD student at UMET, University of Lille) received grants from the Société Française de Minéralogie et de Cristallographie to help them attend the EMU school "Minerals at the Nanoscale."

Report from Romain Lafay and Guillaume Bellino

The EMU school gave us the opportunity to deal in depth with the possibilities offered by transmission electron microscopy (TEM). During the mornings, well-qualified professors gave us interesting lectures on various subjects and the types of characterization offered by TEM, including technical aspects and traps to avoid. The afternoons were dedicated to practical work, such as sample preparation and the interpretation of data. The various topics covered by the school corresponded well to the needs and expectations of the 40 participants from various countries and backgrounds. It was an opportunity for us to get answers to several questions that have arisen in our own research and, above all, to get a better understanding of this accurate tool. Indeed, we intend to perform measurements with TEM in the near future to accurately characterize our samples.

The school was well organized, and we were warmly welcomed in this beautiful World Heritage–listed city. On top of that, a closing dinner with tapas was held in a typical Spanish house (called Carmen) with a wonderful view of the famous Alhambra de Granada.

The two PhD students sponsored by the SFMC with the EMU school's organizers. From left to right: Romain Lafay (U. Grenoble), Fernando Nieto (U. Granada), Fernando Gervilla (U. Granada) and Guillaume Bellino (U. Lille).

THE SEM AT THE EMU SCHOOL "MINERALS AT THE NANOSCALE"

The Spanish Mineralogical Society (SEM) participated in the EMU school "Minerals at the Nanoscale" (www.ugr.es/~emuschool2013). SEM members Fernando Nieto and Fernando Gervilla organized this interesting school. It covered a wide range of topics related to the application of high-resolution transmission electron microscopy in the investigation of minerals at the nanoscale. The school included practical work using a Philips CM-20 and an FEI Titan at the Centro de Investigación Científica of the University of Granada. The practical work also included preparation of samples and interpretation of data. SEM members Carlos Rodríguez-Navarro, Encarnación Ruiz-Agudo, Blanca Bauluz, Isabel Abad and Antonio Sánchez-Navas gave lectures and practical sessions. Three students were able to attend the school because they received grants from the SEM to cover registration fees and travel and accommodation costs.

THE 6th INTERNATIONAL SYMPOSIUM ON GRANITIC PEGMATITES

The 6th International Symposium on Granitic Pegmatites was held in New Hampshire and Maine from May 26 to June 2, 2013. The meeting was organized by Skip Simmons, Karen Webber, Al Falster, Bob Whitmore, and others, and was comprised of two parts. The technical part, with talks and poster presentations, was held at the Attitash Grand Summit Hotel in Bartlett, New Hampshire, from May 26 to 30. This involved three days of technical sessions and a one-day mid-meeting field trip to the phosphate-rich Palermo pegmatites of Grafton, New Hampshire. Special exhibits of New England pegmatite minerals were displayed by local collectors, miners, and museums, including Don Dallaire, Gary and Mary Freeman, Gordon Jackson, Jeff Morrison, Bob and Edna Whitmore, the Maine Mineral and Gem Museum, and the Capital Mineral Club of New Hampshire. It was a pleasure to view beautiful local minerals, and the displays were a great source of inspiration for scientific discussion. A total of 105 persons from 19 different countries participated, and most attendees gave presentations. The Attitash Grand Summit Hotel was a wonderful venue for the meeting, and catering by the hotel was outstanding. The first part of the meeting culminated with a banquet and dancing by the Four Winds Native American dance ensemble.

Attendees of the 6th International Symposium on Granitic Pegmatites at the Emmons mine. Photo: Karen Lund Marchal

The second part of the meeting consisted of a three-day field trip to gem-bearing, rare-element pegmatites in Oxford and Androscoggin counties, Maine. While in Maine the group stayed at the Poland Spring Resort in Poland. Sites visited during the trip were the Bennett, Emmons, Havey, Mt. Mica, and Waisanen (sometimes referred to as the Tamminen-Waisanen) pegmatites. The trip started with a visit to the new Maine Mineral and Gem Museum in Bethel (www.maineminer-almuseum.org/). Although the museum was still under construction, the group was given a guided tour and allowed to view many of the specimens scheduled for display.

During the field trips, lunches were elegantly prepared by Appetites Catering of Bangor, Maine. Proprietor and Chef Michael O'Neal is also a geologist and pegmatite miner. It was a real treat to be served gourmet

Display of gem elbaite crystals from Newry, Maine. Maine Mineral and Gem Museum, Bethel. Photo: Karen Lund Marchal

meals (e.g. lobster rolls, grilled vegetables, and homemade pies with ice cream) while studying the pegmatites and digging for specimens. We were also provided fresh exposures at many of the mines. Gary and Mary Freeman sandblasted a portion of the underground mine walls at Mt. Mica so that the zoned mineralization could be seen more clearly, and Frank Perham made several fresh blasts at the Waisanen quarry, one while participants were watching from a safe distance. Many interesting discussions arose during the technical sessions and field trips, and most of the symposium participants joined in a semiformal conversation on reevaluating pegmatite nomenclature.

This symposium is held every two years, and this was the first time it was held in the United States. The next meeting will be convened in Poland in 2015.

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THE 7th INTERNATIONAL SYMPOSIUM ON GRANITIC PEGMATITES

The 7th International Symposium on Granitic Pegmatites will be held in Lower Silesia, southwestern Poland, during the summer of 2015. The technical part of the symposium will take place at Książ Castle, the Pearl of Lower Silesia, which was erected in the 13th century. Pre- and postmeeting field trips will include pegmatites of the Czech Republic and Poland. Closer to the event, more information will be available on the Mineralogical Society of America's Pegmatite Interest Group website, www.minsocam.org/MSA/Special/Pig/PIG_events.html).

The organizing committee for PEG 2015 includes Janusz Janeczek (University of Silesia, Sosnowiec, Poland), Adam Pieczka (University of Science and Technology, Kraków, Poland), Milan Novak (Masaryk University, Brno, Czech Republic), William "Skip" Simmons (University of New Orleans, USA), Eligiusz "Elek" Szełęg (University of Silesia, Sosnowiec, Poland), and Adam Szuszkiewicz (University of Wrocław, Poland).